Performance Of Parametric Model For Line Transect Data

gamil abdulraqeb abdullah saeed 1, noryanti muhammad 2 and wan nur syahidah wan yusoff 3

Faculty Of Industrial Sciences & Technology, Universiti Malaysia Pahang, 26300 Gambang, Kuantan,Pahang, Malaysia

hamadijamil2010@gmail.com , noryanti@ump.edu.my , wnsyahidah@ump.edu.my

Abstract
One of the most important sides of life is wildlife. There is growing research interest in monitoring wildlife. Line transect sampling is one of the techniques widely used for estimating the density of objects especially for animals and plants. In this study, we have developed a parametric estimator f (0) for estimation of the population bundance. A new parametric model for perpendicular distances for detection function g (z) is utilized to develop the estimator f (0) . Moreover, we present the performance of the parametric model which was developed using simulation study. The detection function has nonincreasing curve and a perfect probability at zero. Theoretically, the parametric model that has been developed is guaranteed to satisfy the shoulder condition assumption. A simulation study is presented to validate the present model. Relative mean error (RME) is used to compare the estimator with well-known existing estimators. The results of the simulation study are discussed and the performance of the proposed model showed good statistical properties which out-performed the existing models.

Keyword – Parametric; Transect; Performance